

WELDER
WG-3703-10

METAL TRADES

I. POSITION AND ORGANIZATION INFORMATION**Position:**

Welder, WG-3703-10

Purpose of position:

The primary purpose of this job is to perform metal welding work involved in the manufacture, repair, modification, and assembly of various types of metal and alloy parts, equipment, systems, and structures.

Organization:

Facilities Mgmt Div., Maintenance Branch

Organization goals:**II. MAJOR DUTIES****A. Duty (Critical):**

Uses a variety of welding processes such as oxyacetylene, electrode arc, submerged arc, shielded metal arc welding, gas metal arc welding, gas tungsten arc welding, metal spray arc, and spot and stud welding to join all types of common metals and alloys. Welds structures, plates, sheet metal, castings, forgings, pipes, boilers, shafts, turbines, valves, caissons, tanks, and/or other comparable material, parts, equipment, and machinery. Welding processes may be manual or automated. Welds dissimilar metals. Produces water or air tight welds where required. Welds require complete penetration and fusion of base and filler metals even when welding in hard to reach places. As required, may train and/or guide lower graded/lesser experienced employees. (25%)

Tasks:

1. Welds a variety of common metals to prevent distortion or burning of the metals, and to meet weld dimensions, tolerances, strengths, and other requirements.
2. Maintains dimensions and tolerances to specification.

Selected Staffing KSAs:

A1, A2, A3, A4, A5, A6, A7

B. Duty (Critical):

Plans and lays out work from blueprints, sketches, drawings, specifications, and work orders. Sets up clamping fixtures. Devises special jigs and fixtures to hold the parts to be welded, as needed. Prepares welding surfaces. (25%)

Tasks:

1. Plans and lays out work in accordance with associated technical guidance.
2. Secures material, sets welding gear, and prepares surfaces.

Selected Staffing KSAs:

A1, A2, A3, A4, A5, A6, A7

C. Duty (Critical):

Utilizes safety practices, established rules, regulations, and procedures. Maintains safe and clean work environment. Uses and assures proper fit of required safety equipment and clothing. (25%)

Tasks:

1. Operates equipment in a safe manner, applying established safety rules and regulations to minimize minor violations and to avoid major violations due to employee error or negligence.

2. Informs the supervisor of accidents and/or damage to supplies or equipment or of any observed unsafe practices and/or procedures in a timely manner and in accordance with established policies and procedures.

Selected Staffing KSAs:

A1, A2, A3, A4, A5, A6, A7

D. Duty (Critical):

Uses and maintains tools. (25%)

Tasks:

1. Uses, maintains, and accounts for all hand and/or power tools required to accomplish assigned duties.

Selected Staffing KSAs:

A1, A2, A3, A4, A5, A6, A7

E. Other Work Requirements

1. The employee is required to maintain current certification to perform various types of welding work. Welding proficiency is verified by destructive and nondestructive testing of welds.

2. This position requires the employee to drive a motor vehicle. An appropriate, valid driver's license is required for the position.

3. The employee may be recalled to duty.

III. KNOWLEDGES, SKILLS AND ABILITIES (KSAs)**A. Selected Staffing KSAs:**

1. Knowledge of a wide range of welding principles, processes, and difficult techniques.

2. Knowledge of welding standards and how various metals and metal alloys react to different welding processes and techniques.

3. Knowledge of safety regulations, practices, and procedures.

4. Skill in using and maintaining handtools, power tools, and special jigs and fixtures.

5. Ability to weld dissimilar metals including parts and structures that vary

in size, shape, and thickness.

6. Ability to use measuring instruments to maintain dimensions and tolerances to specifications.

7. Ability to use welding drawings, blueprints, specifications, and instructions.

B. Basic Training Competencies:

1. Knowledge of a wide range of welding principles, processes, and difficult techniques.

~~2. Knowledge of welding standards and how various metals and metal alloys react to different welding processes and techniques.~~

3. Knowledge of safety regulations, practices, and procedures.

4. Skill in using and maintaining handtools, power tools, and special jigs and fixtures.

5. Ability to weld dissimilar metals including parts and structures that vary in size, shape, and thickness.

6. Ability to use measuring instruments to maintain dimensions and tolerances to specifications.

7. Ability to use welding drawings, blueprints, specifications, and instructions.

IV. CLASSIFICATION FACTORS

Factor 1. Knowledge

1. -- Knowledge of a wide range of welding principles, processes, and difficult techniques requiring complete penetration and fusion of base and filler metals.

-- Knowledge of welding standards and how various metals and metal alloys react to different welding processes and techniques.

-- Knowledge of several related metal trades procedures, such as brazing, soldering, flame- and arc-cutting, surface hardening, annealing, and metal spraying.

-- Skill in devising special jigs and fixtures to hold the parts to be welded.

-- Ability to maintain dimensions and tolerances to specifications.

-- Ability to weld dissimilar metals.

-- Ability to weld parts and structures that vary in size, shape, and thickness.

Factor 2. Responsibility

Employee performs assigned work based on oral instructions or written work orders. Independently plans and lays out work, and determines the proper techniques, material, and equipment to use. Supervisor is consulted for advice on unusual problems. Welds are subject to various types of inspections and tests and are reviewed for compliance with specification and accepted trade practice.

Factor 3. Physical Effort

Employee must stand, stoop, bend, kneel, climb, crawl, stretch, and work in awkward and cramped positions when welding in hard-to-reach or confined spaces. Frequently handles objects weighing up to 50 pounds without assistance and over 50 pounds with assistance.

Factor 4. Working Conditions

Employee works both inside and outside, sometimes in bad weather and in areas that are noisy, dirty, greasy, and smoky. Is exposed to fumes, heat, flying sparks, the glare of torches, ultraviolet radiation, and heated materials. There is the possibility of eye injury, electrical shock, broken bones, burns, and the chance of cuts when working with sharp objects. There may be discomfort when wearing protective clothing, safety shoes, gloves, flash shield or eye goggles, and other equipment as required.

V. CLASSIFICATION SUMMARY

In this position:

Duty A. 25% WG-3703-10 Welder
Uses Welding Processes

Duty B. 25% WG-3703-10 Welder
Plans Work

Duty C. 25% WG-3703-10 Welder
Utilizes Safety Practices

Duty D. 25% WG-3703-10 Welder
Uses Tools

OPM Job Grading Standard for Welder, WG-3703, TS-30 dated May 1974.

Grade: WG-10